

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1 (Currently Amended) A tire manufacturing method ~~having a process for, in manufacturing product for~~ tires in plural sizes chosen from a group of sizes specified in advance, ~~moving a tire being molded sequentially between stations of a molding system having a plurality of working stations, sequentially assembling tire component members specified in advance corresponding to each working station and molding a green tire at a predetermined tact time, and a process for vulcanizing the molded green tire, to be performed at one or more working stations of said molding system:~~ the method comprising:

molding a green tire based on the molding tire component members specified in advance and a sequence specified in advance, wherein the members and the sequence including include at least two combinations combination of green tires in different sizes in tandem chosen as necessary from said group of sizes,

disposing a carcass band and both two bead cores on a toroidal molding drum which has a bead lock portion, the toroidal molding drum having a whose diameter that can be expanded/reduced expanded or reduced in the a toroidal shape and shape,

locking the bead cores, cores with the bead lock portions,

repeatedly moving the toroidal molding drum between stations of a molding system having a plurality of working stations at a predetermined tact time, where the tact time is a sum of an actual working time and an idle time for each of the plurality of working stations,

expanding the diameter of the molding drum, toroidally extending the carcass band between both the bead cores, rolling up the a side portion of the carcass band around the bead cores outward in the a radial direction,

_____ assembling tire component members with the bead cores locked to the toroidal molding drum and molding the green tire,

_____ reducing the diameter of the molding drum, unlocking the bead cores, and removing the green tire from the molding drum.

2. (Currently Amended) A tire manufacturing method according to claim 1, wherein, in forming said carcass band, ~~this member~~ said carcass band is assembled onto a cylindrical molding drum to form a carcass band at working stations corresponding to an inner liner member and a carcass member, respectively, and then, the carcass band is removed from the cylindrical molding drum, and

in molding said green tire, after said process for rolling up the side portion of the carcass ~~member-band~~ on the toroidal molding drum, a belt member, a tread member and a sidewall member are assembled at ~~the~~ respective corresponding working stations.

3. (Currently Amended) A tire manufacturing method according to claim 1, wherein at least one of said tire component ~~member-members~~ to be assembled at ~~said working station~~ one of said working stations is comprised of one type of member element specified in advance and common to said group of sizes, and a green tire is molded by assembling the member element by an amount specified in advance for each tire component member for all the sizes in said group.

4. (Currently Amended) A tire manufacturing method according to claim 3, wherein at least one of said tire component members has a rubber ribbon made of a predetermined material continuously extruded through a die with a predetermined sectional shape as said member element, ~~this-the~~ rubber ribbon is wound on a cylindrical or a toroidal molding drum in ~~the~~ a spiral shape and ~~this~~ is laminated in the predetermined sectional shape, and ~~this-the~~ tire component member is assembled.

5. (Currently Amended) A tire manufacturing method according to claim 3, wherein at least one of said tire component members has a continuous sheet with a predetermined width made of a predetermined material as said member element, ~~this~~the continuous sheet is cut into ~~the~~a length specified in advance according to a size, per size, creating narrow pieces in ~~the~~a number predetermined for each size that are joined to each other so that ~~the~~ cut-off faces of the ~~cut-off~~ narrow pieces are aligned in ~~the~~a circumferential direction on the molding drum, and ~~this~~the tire component member is assembled.

6. (Currently Amended) A tire manufacturing method according to claim 3, wherein a tread member and a sidewall member are included in tire component members having a rubber ribbon made of a predetermined material continuously extruded through a die with a predetermined sectional shape as said member element, ~~this~~the rubber ribbon is wound on a cylindrical or a toroidal molding drum in ~~the~~a spiral shape and ~~this~~ is laminated in ~~the~~ predetermined sectional shape as said member element, and an inner liner member, a carcass member and a belt member are included in tire component members having a continuous sheet with a predetermined width made of a predetermined material as said member element, ~~this~~the continuous sheet is cut into ~~the~~a length specified in advance according to a size per size, creating narrow pieces in ~~the~~a number predetermined for each size that are joined to each other so that ~~the~~ cut-off faces of the ~~cut-off~~ narrow pieces are aligned in ~~the~~a circumferential direction on the molding drum as said member element.

7. (Previously Presented) A tire manufacturing method according to claim 3, wherein, as for at least one tire component member, said member element is directly assembled onto a cylindrical or a toroidal molding drum.

8. (Previously Presented) A tire manufacturing method according to claim 3, wherein, as for at least one tire component member, said member element for a single tire is

combined and then, the combined member element is assembled on a cylindrical or a toroidal molding drum.

9. (Currently Amended) A tire manufacturing method according to claim 1, ~~wherein among idle time at each of the working stations corresponding to each tact determined based on said molding sequence specified in advance, further comprising:~~
determining a shortest idle time, which is the shortest of the idle times for each of the plurality working stations, and
changing the tact time in advance ~~a tact time is changed for the respective tact so that~~
the shortest idle time becomes shorter.

10. (Currently Amended) A tire manufacturing method according to claim 1, wherein an estimate equation is prepared in advance to estimate a primary harmonic component of radial run-out in a green tire caused by a relative displacement or angular displacement between the center of axis of the carcass band and the center of axis of the bead core in setting the bead core on the outer circumference of the carcass band,

radial run-out of ~~the~~ a first green tire is measured for one cycle and an inverted waveform in which the primary harmonic component is inverted is obtained,

in molding a subsequent tire of the same size as said first tire in said molding system thereafter, a relative displacement or an angular displacement between the center of axis of the carcass member and the center of axis of the bead core causing this inverted waveform is obtained by back calculation of said estimate equation, and the position or the angle of at least either one of the bead core axis centers is changed by the magnitude of the displacement acquired from ~~this the~~ this estimate equation in the direction of the displacement acquired from this estimate equation so as to set the bead core on the carcass band.

11. (Currently Amended) A tire manufacturing method according to claim 1, wherein vulcanization of the molded green tires is started sequentially at said predetermined tact time and vulcanization of ~~these~~the tires is finished at said predetermined tact time.

12. (Previously Presented) A tire manufacturing method according to claim 1, wherein inspection of the vulcanized tire is started at said predetermined tact time.